**Department of Computer Science**

**Sri Y N College**

**(Autonomous)**

(Affiliated to Adikavi Nannaya University)

Thrice Accredited by NAAC with 'A' grade

**NARASAPUR-534275, West Godavari District, Andhra Pradesh**

# PO's, PSO's and CO's

# on

# B.Sc., Computer Science Syllabus

# for the Academic Year 2022-2023

# Dept. of Computer Science
## Sri Yerramilli Narayanamurthy College (Autonomous)
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### NARASAPUR-534275, W.G.Dist. AP

# PROGRAMME OUTCOMES

After completion of the Programme, the students would be able to acquire

**PO1: Conceptual and In-depth Knowledge:** Students get equipped with the conceptual and in-depth knowledge of the domain subjects.

**PO2: Analysis and Evaluation Techniques:** Students would be able to understand, analyse and evaluate various aspects pragmatically.

**PO3: Decision making and Entrepreneurial Skills:** Students would acquire decision making skills and entrepreneurial abilities.

**PO4: Communication and Soft Skills:** Students would be able to express their thoughts and ideas confidently to impart their knowledge efficiently by making use of the Soft Skills they have learnt.

**PO5: Life Skills:** Students would be able to design appropriate solutions to various problems they may encounter in their personal and professional lives.

**PO6: Usage of ICT Tools:** Students would be able to make use of ICT tools effectively and they would be able to make use of technology to meet the local, regional and national needs.

**PO7: Eco-friendly and Environment sustainability practices:** Students would be able to adopt eco-friendly practices for environmental sustainability.

**PO8: Team Spirit:** Student would function effectively as an individual and work with harmony and integrate diverse teams.

**PO9: Employability Skills and Leadership traits:** Student would learn the required Employability Skills and become competent to face the competitive world and can be assured of good careers.

**PO10: Human values and Professional Ethics:** Students would emerge as vibrant, ethical and socially responsible citizens.

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# PROGRAMME SPECIFIC OUTCOMES

These are statements that define the outcomes of a Programme which makes studentsrealise the fact that the knowledge and techniques learnt in this Programme will havedirect implication for the betterment of society.

| | |
|---|---|
| PSO 1 | **Proficiency in high level Numerical methods:** Students would develop proficiency in high level Mathematical methods. They would also acquire Analytical and Logical thinking skills. |
| PSO 2 | **Knowledge in Experimentation:** The students would acquire necessary skills to carry out experiments in order to verify the laws and concepts of Physics. |
| PSO 3 | **Problem Solving and Programming Skills:** Students would get hands-on experience in various practical aspects. They would also learn problem solving and programming techniques. |

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## COURSE OUTCOMES:

**PROBLEM SOLVING IN C:**

| B.Sc., | Semester-I | Credits:4 |
|---|---|---|
| Course:1 | PROBLEM SOLVING IN C | Hrs/Wk: 4 |

### Objectives:

- This course aims to provide exposure to problem-solving through programming.
- It introduces the concepts of the C Programming language.

### Course Learning Outcomes:

Upon successful completion of the course, a student will be able to:

1. Understand the evolution and functionality of a Digital Computer.
2. Apply logical skills to analyze a given problem
3. Develop an algorithm for solving a given problem.
4. Understand 'C' language constructs like Iterative statements, Array processing, Pointers, etc.
5. Apply 'C' language constructs to the algorithms to write a "C" language program.

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| B.Sc., | Semester-II | Credits:4 |
|---|---|---|
| Course: 2 | Data Structures using 'C" | Hrs/Wk: 4 |

**Aim and objectives of Course:**

To introduce the fundamental concept of data structures and to emphasize the importance of various data structures in developing and implementing efficient algorithms.

**Learning outcomes of Course:**

Upon successful completion of the course, a student will be able to:

1. Understand available Data Structures for data storage and processing.
2. Comprehend Data Structure and their real-time applications - Stack, Queue, Linked List, Trees and Graph
3. Choose a suitable Data Structures for an application
4. Develop ability to implement different Sorting and Search methods
5. Have knowledge on Data Structures basic operations like insert, delete, search, update and traversal Design and develop programs using various data structures
6. Implement the applications of algorithms for sorting, pattern matching etc.

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| B.Sc., | Semester-III | Credits:4 |
|--------|--------------|-----------|
| Course: 3 | Database Management System | Hrs/Wk: 4 |

**Aim and objectives of Course:**

The objective of the course is to introduce the design and development of databases with special emphasis on relational databases.

**Learning outcomes of Course:**

Upon successful completion of the course, a student will be able to:

1. Gain knowledge of Database and DBMS.
2. Understand the fundamental concepts of DBMS with special emphasis on relational data model.
3. Demonstrate an understanding of normalization theory and apply such knowledge to the normalization of a database
4. Model data base using ER Diagrams and design database schemas based on the model.
5. Create a small database using SQL.
6. Store, Retrieve data in database.

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| B.Sc., | Semester-IV | Credits:4 |
|--------|-------------|-----------|
| Course: 4 | OBJECT ORIENTED PROGRAMMING USING JAVA | Hrs/Wk: 4 |

## Aim and objectives of Course:

To introduce the fundamental concepts of Object-Oriented programming and to design & implement object oriented programming concepts in Java.

## Learning outcomes of Course:

1. Understand the benefits of a well-structured program
2. Understand different computer programming paradigms
3. Understand underlying principles of Object-Oriented Programming in Java
4. Develop problem-solving and programming skills using OOP concepts
5. Develop the ability to solve real-world problems through software development in high-level programming language like Java.

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| B.Sc., | Semester-IV | Credits:4 |
|--------|-------------|-----------|
| Course: 5 | Operating Systems | Hrs/Wk: 4 |

**Aim and objectives of Course:**

This course aims to introduce the structure and organization of a file system. It emphasizes various functions of an operating system like memory management, process management, device management, etc.

**Learning outcomes of Course:**

Upon successful completion of the course, a student will be able to:

1. Know Computer system resources and the role of operating system in resource management with algorithms.
2. Understand Operating System Architectural design and its services.
3. Gain knowledge of various types of operating systems including Unix and Android.
4. Understand various process management concepts including scheduling, synchronization, and deadlocks.
5. Have a basic knowledge about multithreading.
6. Comprehend different approaches for memory management.
7. Understand and identify potential threats to operating systems and the security features design to guard against them.
8. Specify objectives of modern operating systems and describe how operating systems have evolved over time.
9. Describe the functions of a contemporary operating system

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## Web Interface Designing Technologies

| B.Sc., | Semester :V(Skill Enhancement Course - Elective) | Credits:4 |
|---|---|---|
| Course: 6A | Web Interface Designing Technologies | Hrs/Wk: 4 |

**Learning Outcomes:**

Students after successful completion of the course will be able to:

1. Understand and appreciate the web architecture and services.

2. Gain knowledge about various components of a website.

3. Demonstrate skills regarding creation of a static website and an interface to dynamic website.

4. Learn how to install word press and gain the knowledge of installing various pluginsto use in their websites.

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### Web Interface Designing Technologies

| B.Sc., | Semester: V (Skill Enhancement Course - Elective) | Credits:4 |
|--------|---------------------------------------------------|-----------|
| Course: 7A | Web Applications Development using PHP& MYSQL | Hrs/Wk: 4 |

**Learning Outcomes:**

Students after successful completion of the course will be able to:

1. Write simple programs in PHP.

2. Understand how to use regular expressions, handle exceptions, and validate data using PHP.

3. Apply In-Built functions and Create User defined functions in PHP programming.

4. Write PHP scripts to handle HTML forms.

5. Write programs to create dynamic and interactive web based applications using PHP and MYSQL.

6. Know how to use PHP with a MySQL database and can write database driven web pages

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